

What is claimed is;

1. A radiation image read-out apparatus comprising
a plurality of radiation image convertor panels
superposed one on another in a direction in which radiation
5 passing through an object propagates,

a separator which separates the superposed radiation
image convertor panels exposed to the radiation passing
through the object from one another by moving in a parallel
displacement and/or rotating about an axis on a plane parallel
10 to the surfaces of the radiation image convertor panels one
or more of the superposed radiation image convertor panels
relatively to the others, and

a single detecting head which detects stimulated
emission emitted from each of the radiation image convertor
15 panels separated by the separator,

thereby obtaining a plurality of pieces of image data
each representing a radiation image of the object recorded on
each of the radiation image convertor panels by exposure to
the radiation on the basis of output from the detecting head.

20 2. A radiation image read-out apparatus as defined in
Claim 1 in which the detecting head detects the stimulated
emission from the surface of the radiation image convertor
panel from which the radiation impinges upon the radiation
image convertor panel.

25 3. A radiation image read-out apparatus as defined in
Claim 1 in which the detecting head detects the stimulated

emission from the surface of the radiation image convertor panel opposite to the surface from which the radiation impinges upon the radiation image convertor panel.

4. A radiation image read-out apparatus as defined in
5 Claim 1 further comprising an image processing means which carries out an energy subtraction processing or a superposition processing by the use of the pieces of image data obtained from the respective radiation image convertor panels.

5. A radiation image read-out apparatus as defined in
10 Claim 1 further comprising a moving means which moves the detecting head along each of the separated radiation image convertor panels in which the detecting head detects the stimulated emission while being moved by the moving means.

6. A radiation image read-out apparatus as defined in
15 Claim 1 further comprising a reciprocating means which reciprocates back and forth the detecting head along each of the separated radiation image convertor panels in which the detecting head detects the stimulated emission on both the forward travel and the backward travel by the reciprocating
20 means.

7. A radiation image read-out apparatus as defined in Claim 1 in which the radiation image convertor panels are different in shape.

8. A radiation image read-out apparatus as defined in
25 Claim 1 in which the radiation image convertor panels are provided with a locator member which keeps the space between

the detecting head and the surface of the radiation image convertor panel facing the detecting head at a predetermined space during detection of the stimulated emission from the radiation image convertor panel.

5 9. A radiation image read-out apparatus as defined in Claim 1 in which each of the radiation image convertor panels is provided thereon with a light emitting plate which transmits the radiation and emits erasing light which erases radiation energy remaining in the radiation image convertor panel.

10 10. A radiation image read-out apparatus as defined in Claim 1 in which the radiation image convertor panels are arranged so that a radiation image convertor panel remoter from the object absorbs more radiation when all the radiation image convertor panels are exposed to given radiation under the same
15 conditions.

 11. A radiation image read-out apparatus as defined in Claim 1 which detects the stimulated emissions from the radiation image convertor panels so that high-frequency component of the information representing the object is more
20 abbreviated in a radiation image convertor panel which is positioned remoter from the object when the radiation image convertor panels are exposed to the radiation passing through the object.

 12. A radiation image read-out apparatus as defined in
25 Claim 1 in which the radiation image convertor panel comprises a stimuable phosphor layer and a substrate which supports the

stimulable phosphor layer, and the substrate doubles as a radiation absorbing filter which absorbs the radiation.

13. A radiation image read-out apparatus as defined in Claim 1 in which the radiation image convertor panel comprises
5 a substrate and a stimulable phosphor layer of columnar crystal
stimulable phosphors formed on the substrate by vapor
building-up.